

## REMARKS

### *Status of the Claims*

Claims 1-3 and 5-7 are pending. Claim 1 is presently amended. Claims 4 and 8-9 are canceled.

Applicants have amended claim 1 to include “at least one internal control template” and a “hybridization reagent capable of specifically detecting said internal control template”. Support for these amendments can be found throughout the specification as filed, for example on page 20 lines 25-25, page 27 lines 7-8, and in claim 4 as filed. Other amendments were made to claim 1 to clarify the claim language and structure. No new matter is added by these amendments.

With entry of this amendment, claims 1-3 and 5-7 are currently pending and under consideration.

### *Double Patenting*

The Examiner has provisionally rejected claim 1 on the grounds of nonstatutory obviousness-type double patenting over claims 1, 2 and 6 of copending Application No. 10/534,955 in view of Jannes et al. Additionally, the Examiner has provisionally rejected claim 1 on the grounds of nonstatutory obviousness-type double patenting over claim 1 of copending Application No. 10/532,319.

If a “provisional” double patenting rejection in one application is the only rejection remaining in that application, the examiner should then withdraw the rejections and permit the application to issue as a patent. Application Nos. 10/534,955 and 10/532,319 are not currently allowed. Accordingly, Applicants submit if these provisional rejections are the only outstanding rejections, the present claims should be allowed. However, Applicants will consider filing Terminal Disclaimers when the present claims are indicated as otherwise allowable if/when Application Nos. 10/534,955 and 10/532,319 are allowed.

### *Claim Rejections – 35 USC §103*

The Examiner has rejected claims 1-5 and 7 under 35 USC 103(a) as being unpatentable over Loeffler et al. in view of Chang et al. and deSilva et al. (Action page 6). The Examiner asserts, in part, that it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have adjusted the teaching of Loeffler to target the 18S rRNA spacer sequence of Chang to arrive at the claimed invention with a reasonable expectation for success. Further the Examiner asserts that one of ordinary skill in the art at the time the invention was made would have been motivated to

have extended the methods taught by Loeffler to incorporate the method of determining and monitoring the temperature dependence of hybridization as taught by deSilva to arrive at the claimed invention with a reasonable expectation for success. (Action pages 9-10)

Solely to facilitate prosecution and without acquiescence in the rejections, Applicants have amended claim 1 to include “at least one internal control template” and a “hybridization reagent capable of specifically detecting said internal control template”.

The Examiner asserts that Loeffler teaches a hybridization reagent capable of specifically detecting an internal control. (Action page 8) Applicants respectfully assert that the Loeffler reference does not teach an internal control template or a hybridization reagent capable of specifically detecting said internal control template as provided in the instant invention. Loeffler teaches on page 208 section 2.4 the use of external “non-competitive” control reactions used to determine a type of sensitivity standard panel (see Fig 1) used for semi-quantitation. The present invention provides for the use of an internal control as described on page 20 lines 25-35 and page 27 lines 7-8 of the application as filed, wherein the internal control template plasmid was added to the completed mastermix for the purposes of avoiding false negative results. The control of Loeffler is completely different both in design and purpose than the internal control of the present invention. Neither Chang nor deSilva teach the use of an internal control.

The Examiner again asserts that deSilva reference teaches an embodiment comprising step bbb, wherein deSilva provides an example of monitoring temperature dependence of hybridization. (Action page 9) deSilva teaches a method that utilizes 2 hybridization probes + a melting temperature profile for identification of a single base pair change (Factor V Leiden). deSilva does not teach the use of a plurality of hybridization reagents for the detection of multiple sequences, nor does deSilva teach the use of an internal control template and a hybridization reagent capable of specifically detecting said internal control template. The present invention provides methods for identification of multiple genera and species with the use of a multiplex set of hybridization probes that detect multiple base pair changes. Claim 1 step bb) specifically requires: “a plurality of hybridization reagents, said reagents together being capable of detecting ... all members of said predetermined group of pathogens” (emphasis added).

Applicants assert that the teachings of deSilva cannot be applied to a plurality of hybridization reagents for the detection of two or more genera in one reaction vessel. deSilva’s teachings are limited to a 2-probe system for detection of a single base pair change. It should be further noted that deSilva separately teaches detection of beta-globin sequences and Factor V Leiden sequences, however these 2

targets are amplified and detected in separate reaction vessels and there is no suggestion or motivation to analyze these sequences together in one vessel. Further, there are no teachings in deSilva directed to monitoring the temperature dependence of hybridization in a multiplex system. In contrast, the present invention provides methods for amplification and detection of all members of a predetermined group of pathogens in one reaction vessel further comprising an internal control template, further comprising a plurality of hybridization reagents with different fluorescence properties followed by monitoring the temperature dependence of hybridization. For example, see page 16 lines 1-20, page 22 lines 29-35, and the table on page 28 in the specification as filed.

Applicants respectfully submit that the Examiner has not provided a *prima facie* case of obviousness because the combination of Loeffler, Chang and deSilva does not anticipate each every limitation set forth in the claims. For the reasons provided above Applicants respectfully request reconsideration and withdrawal of the §103 rejections.

The Examiner has rejected claim 5 under 35 USC 103(a) as being unpatentable over Loeffler et al. in view of deSilva et al. as applied to claims 1-4 and 6-7 above, and further in view of Jannes et al. (Action page 11). The Examiner asserts, in part, that it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have adjusted the teachings of Loeffler, Chang and de Silva to include the targets of gram positive and gram negative bacteria as taught by Jannes to arrive at the claimed invention with a reasonable expectation for success. (Action page 11)

As discussed above, the Examiner has not established that the Loeffler, Chang and deSilva references teach all of the elements of claim 1 or its dependents, which include claim 5. The teachings of Jannes do not correct these deficiencies. Thus, the Examiner has not established a *prima facie* case of obviousness based on the teachings of Loeffler, Chang, deSilva and Jannes, and therefore Applicants respectfully request the reconsideration and withdrawal of the §103 rejections of claim 5.

## CONCLUSION

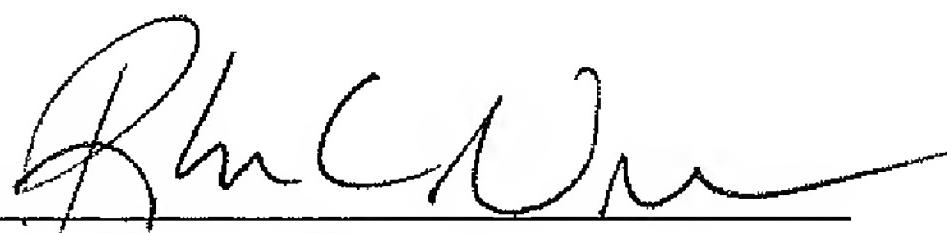
Applicants respectfully request entry of the present amendments and remarks. In view of the above, Applicants believe all claims now pending in this Application are in condition for allowance. If the Examiner believes that a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-730-8566.

Applicants respectfully request a 1-month extension of time to respond to the Office Action mailed August 19, 2008. The response date was November 19, 2008; with the granting of this request, the response time is re-set to December 19, 2008.

The commissioner is hereby authorized to charge the amount of \$130, the fee due under 37 CFR §1.17(a)(1) to Deposit Account No. 50-0812. Please grant any additional extensions of time that may be required to enter this amendment and charge any additional fees or credit any overpayments to Deposit Account No. 50-0812.

Please direct all future correspondences to: Customer No. 22829.

Respectfully submitted,

Date: December 18, 2008  
By:   
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